


Helping Massachusetts Municipalities Create a Greener Energy Future



COMMONWEALTH OF MASSACHUSETTS
Deval L. Patrick, Governor
Richard K. Sullivan, Jr., Secretary
Mark Sylvia, Commissioner


Fuel Efficient Vehicles for a Municipal Fleet

Stephen Russell
Alternative Transportation / Clean Cities Program Coordinator
DOER

Webinar
April 6, 2011
10:00 am

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Helping Massachusetts Municipalities Create a Greener Energy Future



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Introduction: Fuel Efficient Vehicles for a Municipal Fleet

Meg Lusardi
Director
Green Communities Division

Webinar
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10:00 am

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Green Communities Division
Serves as the hub for all Massachusetts cities and towns on energy matters



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Green Communities Division Programs & Resources for Municipalities

- Green Communities Grant and Planning Assistance Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Program
- Energy Management Procurement Assistance
- ARRA stimulus funding
- Website filled with tools & resources for municipalities
www.mass.gov/energy/greencommunities
- Email updates via listserv – Sign up today by sending an email to: join-ene-greencommunities@listserv.state.ma.us

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Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:

SERO – LAKEVILLE: Seth Pickering
Seth.Pickering@state.ma.us

NERO – WILMINGTON: Joanne Bissetta
Joanne.Bissetta@state.ma.us

CERO – WORCESTER: Kelly Brown
Kelly.Brown@state.ma.us

WERO – SPRINGFIELD: Jim Barry
Jim.Barry@state.ma.us





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Recording & Presentation


- The webinar is being recorded and will be available on our website in approximately 48 hours at: www.mass.gov/energy/greencommunities
- The slide presentation will also be posted at: www.mass.gov/energy/greencommunities
- Websites are also listed at end of presentation

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Poll Question 1

We would like to know our audience, are you a:

- 6% Fleet manager
- 44% Energy manager or energy/climate committee member
- 13% Purchasing official or fiscal director
- 0% DPW director
- 38% Other town/school official or volunteer



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Webinar Agenda

- DOE Clean Cities and the Massachusetts Clean Cities Coalition
- Where do you start with your vehicles?
- Fuel efficiency
- Alternative fueled vehicles
- Alternative fuels
- Fuel efficient policies for fleet drivers
- Fuel saving technologies





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Clean Cities

Clean Cities' Mission :

To advance the energy, economic, and environmental security of the U.S. by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption in the transportation sector

- Sponsored by the DOE's Office of Energy Efficiency and Renewable Energy's Vehicle Technologies program
- Provides a framework for businesses and governments to work together as a coalition to enhance markets
- Coordinates activities, identifies mutual interests, develops regional economic opportunities, and improves air quality



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Local Clean Cities Coalitions Work To:

- Educate fleets, elected officials, and the general public on petroleum reduction
- Encourage the use of alternative technologies
- Expand infrastructure
- Increase demand and help develop market-driven products
- Increase public awareness
- Support regulated fleets



U. S. Department of Energy



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Clean Cities Coalition Meetings


Massachusetts meetings throughout the year to educate its stakeholders about petroleum reduction

Upcoming meetings:

- May 12 - Cape Cod
- June 9 - Springfield
- July 14 - Boston

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Massachusetts Clean Cities Coalition

Housed in the Department of Energy Resources
Boston office

- Director: Stephen Russell, DOE
- Co-Director: Mike Manning, Alternative Vehicle Supply Group

www.mass.gov/energy/cleancities

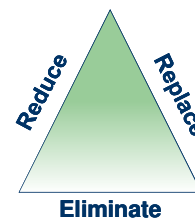


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Petroleum Displacement Methods

- Replace petroleum with alternative fuels and low-level blends.
- Reduce by promoting energy efficiency in vehicles through advanced technologies and more fuel efficient vehicles.
- Eliminate by promoting idle reduction, greater use of mass transit, trip elimination, and other congestion mitigation approaches.



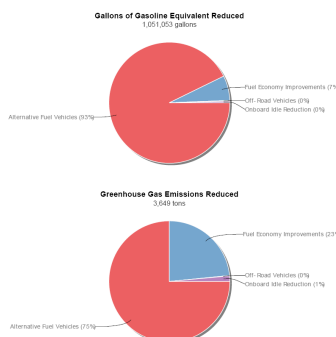
Develop your plan using all approaches



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Petroleum Reduced by Massachusetts Clean Cities Coalition in 2010



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Fuel Efficient Transportation for Cities and Towns

Where does one start?

Let's explore how cities and towns can develop a more fuel efficient fleet and reduce their carbon footprint



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Starting Point – Inventory

- Department, vehicle use description, year, make, model, miles, years in service & MPG

Department	Use description	Specialized equipment	Vehicle ID	Year	Make	Model	MPG	Inspected
Assessing	Building assessments	Radio/decoded	0014	2000	FORD	TALBUR	19	
Code	Health inspections	Radio/decoded	0018	2000	FORD	RANGER	19	
Code	Building and site inspections	Radio/decoded	0019	2000	FORD	RANGER	19	
Inspection	Building and site inspections	Radio/decoded	0019	2000	FORD	RANGER	19	
Inspection	Building and site inspections	Radio/decoded	0019	2000	FORD	RANGER	19	
Engineering	Infrastructure improvement	Radio/decoded	0019	2000	FORD	RANGER	19	
Engineering	Infrastructure improvement	Radio/decoded	0019	2000	FORD	RANGER	19	
Facilities	Infrastructure improvement	Radio/decoded	0019	2000	FORD	RANGER	19	
Fire	Fire trucks assigned	Radio/decoded	0019	2000	FORD	RANGER	19	
Fire	Fire trucks assigned	Radio/decoded	0019	2000	FORD	RANGER	19	



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Replacement Schedule

- Calculate "lifecycle costs" of all vehicles (based on age/ mileage/ maintenance costs)
- Develop a replacement schedule

Variable Data	Description
Vehicle A	Vehicle A
Vehicle B	Vehicle B
Vehicle C	Vehicle C
Vehicle D	Vehicle D
Vehicle E	Vehicle E
Vehicle F	Vehicle F
Vehicle G	Vehicle G
Vehicle H	Vehicle H
Vehicle I	Vehicle I
Vehicle J	Vehicle J
Vehicle K	Vehicle K
Vehicle L	Vehicle L
Vehicle M	Vehicle M
Vehicle N	Vehicle N
Vehicle O	Vehicle O
Vehicle P	Vehicle P
Vehicle Q	Vehicle Q
Vehicle R	Vehicle R
Vehicle S	Vehicle S
Vehicle T	Vehicle T
Vehicle U	Vehicle U
Vehicle V	Vehicle V
Vehicle W	Vehicle W
Vehicle X	Vehicle X
Vehicle Y	Vehicle Y
Vehicle Z	Vehicle Z
Vehicle AA	Vehicle AA
Vehicle AB	Vehicle AB
Vehicle AC	Vehicle AC
Vehicle AD	Vehicle AD
Vehicle AE	Vehicle AE
Vehicle AF	Vehicle AF
Vehicle AG	Vehicle AG
Vehicle AH	Vehicle AH
Vehicle AI	Vehicle AI
Vehicle AJ	Vehicle AJ
Vehicle AK	Vehicle AK
Vehicle AL	Vehicle AL
Vehicle AM	Vehicle AM
Vehicle AN	Vehicle AN
Vehicle AO	Vehicle AO
Vehicle AP	Vehicle AP
Vehicle AQ	Vehicle AQ
Vehicle AR	Vehicle AR
Vehicle AS	Vehicle AS
Vehicle AT	Vehicle AT
Vehicle AU	Vehicle AU
Vehicle AV	Vehicle AV
Vehicle AW	Vehicle AW
Vehicle AX	Vehicle AX
Vehicle AY	Vehicle AY
Vehicle AZ	Vehicle AZ
Vehicle BA	Vehicle BA
Vehicle BB	Vehicle BB
Vehicle BC	Vehicle BC
Vehicle BD	Vehicle BD
Vehicle BE	Vehicle BE
Vehicle BF	Vehicle BF
Vehicle BG	Vehicle BG
Vehicle BH	Vehicle BH
Vehicle BI	Vehicle BI
Vehicle BJ	Vehicle BJ
Vehicle BK	Vehicle BK
Vehicle BL	Vehicle BL
Vehicle BM	Vehicle BM
Vehicle BN	Vehicle BN
Vehicle BO	Vehicle BO
Vehicle BP	Vehicle BP
Vehicle BQ	Vehicle BQ
Vehicle BR	Vehicle BR
Vehicle BS	Vehicle BS
Vehicle BT	Vehicle BT
Vehicle BU	Vehicle BU
Vehicle BV	Vehicle BV
Vehicle BW	Vehicle BW
Vehicle BX	Vehicle BX
Vehicle BY	Vehicle BY
Vehicle BZ	Vehicle BZ
Vehicle CA	Vehicle CA
Vehicle CB	Vehicle CB
Vehicle CC	Vehicle CC
Vehicle CD	Vehicle CD
Vehicle CE	Vehicle CE
Vehicle CF	Vehicle CF
Vehicle CG	Vehicle CG
Vehicle CH	Vehicle CH
Vehicle CI	Vehicle CI
Vehicle CJ	Vehicle CJ
Vehicle CK	Vehicle CK
Vehicle CL	Vehicle CL
Vehicle CM	Vehicle CM
Vehicle CN	Vehicle CN
Vehicle CO	Vehicle CO
Vehicle CP	Vehicle CP
Vehicle CQ	Vehicle CQ
Vehicle CR	Vehicle CR
Vehicle CS	Vehicle CS
Vehicle CT	Vehicle CT
Vehicle CU	Vehicle CU
Vehicle CV	Vehicle CV
Vehicle CW	Vehicle CW
Vehicle CX	Vehicle CX
Vehicle CY	Vehicle CY
Vehicle CZ	Vehicle CZ
Vehicle DA	Vehicle DA
Vehicle DB	Vehicle DB
Vehicle DC	Vehicle DC
Vehicle DD	Vehicle DD
Vehicle DE	Vehicle DE
Vehicle DF	Vehicle DF
Vehicle DG	Vehicle DG
Vehicle DH	Vehicle DH
Vehicle DI	Vehicle DI
Vehicle DJ	Vehicle DJ
Vehicle DK	Vehicle DK
Vehicle DL	Vehicle DL
Vehicle DM	Vehicle DM
Vehicle DN	Vehicle DN
Vehicle DO	Vehicle DO
Vehicle DP	Vehicle DP
Vehicle DQ	Vehicle DQ
Vehicle DR	Vehicle DR
Vehicle DS	Vehicle DS
Vehicle DT	Vehicle DT
Vehicle DU	Vehicle DU
Vehicle DV	Vehicle DV
Vehicle DW	Vehicle DW
Vehicle DX	Vehicle DX
Vehicle DY	Vehicle DY
Vehicle DZ	Vehicle DZ
Vehicle EA	Vehicle EA
Vehicle EB	Vehicle EB
Vehicle EC	Vehicle EC
Vehicle ED	Vehicle ED
Vehicle EE	Vehicle EE
Vehicle EF	Vehicle EF
Vehicle EG	Vehicle EG
Vehicle EH	Vehicle EH
Vehicle EI	Vehicle EI
Vehicle EJ	Vehicle EJ
Vehicle EK	Vehicle EK
Vehicle EL	Vehicle EL
Vehicle EM	Vehicle EM
Vehicle EN	Vehicle EN
Vehicle EO	Vehicle EO
Vehicle EP	Vehicle EP
Vehicle EQ	Vehicle EQ
Vehicle ER	Vehicle ER
Vehicle ES	Vehicle ES
Vehicle ET	Vehicle ET
Vehicle EU	Vehicle EU
Vehicle EV	Vehicle EV
Vehicle EW	Vehicle EW
Vehicle EX	Vehicle EX
Vehicle EY	Vehicle EY
Vehicle EZ	Vehicle EZ
Vehicle FA	Vehicle FA
Vehicle FB	Vehicle FB
Vehicle FC	Vehicle FC
Vehicle FD	Vehicle FD
Vehicle FE	Vehicle FE
Vehicle FF	Vehicle FF
Vehicle FG	Vehicle FG
Vehicle FH	Vehicle FH
Vehicle FI	Vehicle FI
Vehicle FJ	Vehicle FJ
Vehicle FK	Vehicle FK
Vehicle FL	Vehicle FL
Vehicle FM	Vehicle FM
Vehicle FN	Vehicle FN
Vehicle FO	Vehicle FO
Vehicle FP	Vehicle FP
Vehicle FQ	Vehicle FQ
Vehicle FR	Vehicle FR
Vehicle FS	Vehicle FS
Vehicle FT	Vehicle FT
Vehicle FU	Vehicle FU
Vehicle FV	Vehicle FV
Vehicle FW	Vehicle FW
Vehicle FX	Vehicle FX
Vehicle FY	Vehicle FY
Vehicle FZ	Vehicle FZ
Vehicle GA	Vehicle GA
Vehicle GB	Vehicle GB
Vehicle GC	Vehicle GC
Vehicle GD	Vehicle GD
Vehicle GE	Vehicle GE
Vehicle GF	Vehicle GF
Vehicle GG	Vehicle GG
Vehicle GH	Vehicle GH
Vehicle GI	Vehicle GI
Vehicle GJ	Vehicle GJ
Vehicle GK	Vehicle GK
Vehicle GL	Vehicle GL
Vehicle GM	Vehicle GM
Vehicle GN	Vehicle GN
Vehicle GO	Vehicle GO
Vehicle GP	Vehicle GP
Vehicle GQ	Vehicle GQ
Vehicle GR	Vehicle GR
Vehicle GS	Vehicle GS
Vehicle GT	Vehicle GT
Vehicle GU	Vehicle GU
Vehicle GV	Vehicle GV
Vehicle GW	Vehicle GW
Vehicle GX	Vehicle GX
Vehicle GY	Vehicle GY
Vehicle GZ	Vehicle GZ
Vehicle HA	Vehicle HA
Vehicle HB	Vehicle HB
Vehicle HC	Vehicle HC
Vehicle HD	Vehicle HD
Vehicle HE	Vehicle HE
Vehicle HF	Vehicle HF
Vehicle HG	Vehicle HG
Vehicle HH	Vehicle HH
Vehicle HI	Vehicle HI
Vehicle HJ	Vehicle HJ
Vehicle HK	Vehicle HK
Vehicle HL	Vehicle HL
Vehicle HM	Vehicle HM
Vehicle HN	Vehicle HN
Vehicle HO	Vehicle HO
Vehicle HP	Vehicle HP
Vehicle HQ	Vehicle HQ
Vehicle HR	Vehicle HR
Vehicle HS	Vehicle HS
Vehicle HT	Vehicle HT
Vehicle HU	Vehicle HU
Vehicle HV	Vehicle HV
Vehicle HW	Vehicle HW
Vehicle HX	Vehicle HX
Vehicle HY	Vehicle HY
Vehicle HZ	Vehicle HZ
Vehicle IA	Vehicle IA
Vehicle IB	Vehicle IB
Vehicle IC	Vehicle IC
Vehicle ID	Vehicle ID
Vehicle IE	Vehicle IE
Vehicle IF	Vehicle IF
Vehicle IG	Vehicle IG
Vehicle IH	Vehicle IH
Vehicle II	Vehicle II
Vehicle IJ	Vehicle IJ
Vehicle IK	Vehicle IK
Vehicle IL	Vehicle IL
Vehicle IM	Vehicle IM
Vehicle IN	Vehicle IN
Vehicle IO	Vehicle IO
Vehicle IP	Vehicle IP
Vehicle IQ	Vehicle IQ
Vehicle IR	Vehicle IR
Vehicle IS	Vehicle IS
Vehicle IT	Vehicle IT
Vehicle IU	Vehicle IU
Vehicle IV	Vehicle IV
Vehicle IW	Vehicle IW
Vehicle IX	Vehicle IX
Vehicle IY	Vehicle IY
Vehicle IZ	Vehicle IZ
Vehicle JA	Vehicle JA
Vehicle JB	Vehicle JB
Vehicle JC	Vehicle JC
Vehicle JD	Vehicle JD
Vehicle JE	Vehicle JE
Vehicle JF	Vehicle JF
Vehicle JG	Vehicle JG
Vehicle JH	Vehicle JH
Vehicle JI	Vehicle JI
Vehicle JJ	Vehicle JJ
Vehicle JK	Vehicle JK
Vehicle JL	Vehicle JL
Vehicle JM	Vehicle JM
Vehicle JN	Vehicle JN
Vehicle JO	Vehicle JO
Vehicle JP	Vehicle JP
Vehicle JQ	Vehicle JQ
Vehicle JR	Vehicle JR
Vehicle JS	Vehicle JS
Vehicle JT	Vehicle JT
Vehicle JU	Vehicle JU
Vehicle JV	Vehicle JV
Vehicle JW	Vehicle JW
Vehicle JX	Vehicle JX
Vehicle JY	Vehicle JY
Vehicle JZ	Vehicle JZ
Vehicle KA	Vehicle KA
Vehicle KB	Vehicle KB
Vehicle KC	Vehicle KC
Vehicle KD	Vehicle KD
Vehicle KE	Vehicle KE
Vehicle KF	Vehicle KF
Vehicle KG	Vehicle KG
Vehicle KH	Vehicle KH
Vehicle KI	Vehicle KI
Vehicle KJ	Vehicle KJ
Vehicle KK	Vehicle KK
Vehicle KL	Vehicle KL
Vehicle KM	Vehicle KM
Vehicle KN	Vehicle KN
Vehicle KO	Vehicle KO
Vehicle KP	Vehicle KP
Vehicle KQ	Vehicle KQ
Vehicle KR	Vehicle KR
Vehicle KS	Vehicle KS
Vehicle KT	Vehicle KT
Vehicle KU	Vehicle KU
Vehicle KV	Vehicle KV
Vehicle KW	Vehicle KW
Vehicle KX	Vehicle KX
Vehicle KY	Vehicle KY
Vehicle KZ	Vehicle KZ
Vehicle LA	Vehicle LA
Vehicle LB	Vehicle LB
Vehicle LC	Vehicle LC
Vehicle LD	Vehicle LD
Vehicle LE	Vehicle LE
Vehicle LF	Vehicle LF
Vehicle LG	Vehicle LG
Vehicle LH	Vehicle LH
Vehicle LI	Vehicle LI
Vehicle LJ	Vehicle LJ
Vehicle LK	Vehicle LK
Vehicle LL	Vehicle LL
Vehicle LM	Vehicle LM
Vehicle LN	Vehicle LN
Vehicle LO	Vehicle LO
Vehicle LP	Vehicle LP
Vehicle LQ	Vehicle LQ
Vehicle LR	Vehicle LR
Vehicle LS	Vehicle LS
Vehicle LT	Vehicle LT
Vehicle LU	Vehicle LU
Vehicle LV	Vehicle LV
Vehicle LW	Vehicle LW
Vehicle LX	Vehicle LX
Vehicle LY	Vehicle LY
Vehicle LZ	Vehicle LZ
Vehicle MA	Vehicle MA
Vehicle MB	Vehicle MB
Vehicle MC	Vehicle MC
Vehicle MD	Vehicle MD
Vehicle ME	Vehicle ME
Vehicle MF	Vehicle MF
Vehicle MG	Vehicle MG
Vehicle MH	Vehicle MH
Vehicle MI	Vehicle MI
Vehicle MJ	Vehicle MJ
Vehicle MK	Vehicle MK
Vehicle ML	Vehicle ML
Vehicle MM	Vehicle MM
Vehicle MN	Vehicle MN
Vehicle MO	Vehicle MO
Vehicle MP	Vehicle MP
Vehicle MQ	Vehicle MQ
Vehicle MR	Vehicle MR
Vehicle MS	Vehicle MS
Vehicle MT	Vehicle MT
Vehicle MU	Vehicle MU
Vehicle MV	Vehicle MV
Vehicle MW	Vehicle MW
Vehicle MX	Vehicle MX
Vehicle MY	Vehicle MY
Vehicle MZ	Vehicle MZ
Vehicle NA	Vehicle NA
Vehicle NB	Vehicle NB
Vehicle NC	Vehicle NC
Vehicle ND	Vehicle ND
Vehicle NE	Vehicle NE
Vehicle NF	Vehicle NF
Vehicle NG	Vehicle NG
Vehicle NH	Vehicle NH
Vehicle NI	Vehicle NI
Vehicle NJ	Vehicle NJ
Vehicle NK	Vehicle NK
Vehicle NL	Vehicle NL
Vehicle NM	Vehicle NM
Vehicle NN	Vehicle NN
Vehicle NO	Vehicle NO
Vehicle NP	Vehicle NP
Vehicle NQ	Vehicle NQ
Vehicle NR	Vehicle NR
Vehicle NS	Vehicle NS
Vehicle NT	Vehicle NT
Vehicle NU	Vehicle NU
Vehicle NV	Vehicle NV
Vehicle NW	Vehicle NW
Vehicle NX	Vehicle NX
Vehicle NY	Vehicle NY
Vehicle NZ	Vehicle NZ
Vehicle OA	Vehicle OA
Vehicle OB	Vehicle OB
Vehicle OC	Vehicle OC
Vehicle OD	Vehicle OD
Vehicle OE	Vehicle OE
Vehicle OF	Vehicle OF
Vehicle OG	Vehicle OG
Vehicle OH	Vehicle OH
Vehicle OI	Vehicle OI
Vehicle OJ	Vehicle OJ
Vehicle OK	Vehicle OK
Vehicle OL	Vehicle OL
Vehicle OM	Vehicle OM
Vehicle ON	Vehicle ON
Vehicle OO	Vehicle OO
Vehicle OP	Vehicle OP
Vehicle OQ	Vehicle OQ
Vehicle OR	Vehicle OR
Vehicle OS	Vehicle OS
Vehicle OT	Vehicle OT
Vehicle OU	Vehicle OU
Vehicle OV	Vehicle OV
Vehicle OW	Vehicle OW
Vehicle OX	Vehicle OX
Vehicle OY	Vehicle OY
Vehicle OZ	Vehicle OZ
Vehicle PA	Vehicle PA
Vehicle PB	Vehicle PB
Vehicle PC	Vehicle PC
Vehicle PD	Vehicle PD
Vehicle PE	Vehicle PE
Vehicle PF	Vehicle PF
Vehicle PG	Vehicle PG
Vehicle PH	Vehicle PH
Vehicle PI	Vehicle PI
Vehicle PJ	Vehicle PJ
Vehicle PK	Vehicle PK
Vehicle PL	Vehicle PL
Vehicle PM	Vehicle PM
Vehicle PN	Vehicle PN
Vehicle PO	Vehicle PO
Vehicle PP	Vehicle PP
Vehicle PQ	Vehicle PQ
Vehicle PR	Vehicle PR
Vehicle PS	Vehicle PS
Vehicle PT	Vehicle PT
Vehicle PU	Vehicle PU
Vehicle PV	Vehicle PV
Vehicle PW	Vehicle PW
Vehicle PX	Vehicle PX
Vehicle PY	Vehicle PY
Vehicle PZ	Vehicle PZ
Vehicle QA	Vehicle QA
Vehicle QB	Vehicle QB
Vehicle QC	Vehicle QC
Vehicle QD	Vehicle QD
Vehicle QE	Vehicle QE
Vehicle QF	Vehicle QF
Vehicle QG	Vehicle QG
Vehicle QH	Vehicle QH
Vehicle QI	Vehicle QI
Vehicle QJ	Vehicle QJ
Vehicle QK	Vehicle QK
Vehicle QL	Vehicle QL
Vehicle QM	Vehicle QM
Vehicle QN	Vehicle QN
Vehicle QO	Vehicle QO
Vehicle QP	Vehicle QP
Vehicle QQ	Vehicle QQ
Vehicle QR	Vehicle QR
Vehicle QS	Vehicle QS
Vehicle QT	Vehicle QT
Vehicle QU	Vehicle QU
Vehicle QV	Vehicle QV
Vehicle QW	Vehicle QW
Vehicle QX	Vehicle QX
Vehicle QY	Vehicle QY
Vehicle QZ	Vehicle QZ
Vehicle RA	Vehicle RA
Vehicle RB	Vehicle RB
Vehicle RC	Vehicle RC
Vehicle RD	Vehicle RD
Vehicle RE	Vehicle RE
Vehicle RF	Vehicle RF
Vehicle RG	Vehicle RG
Vehicle RH	Vehicle RH
Vehicle RI	Vehicle RI
Vehicle RJ	Vehicle RJ
Vehicle RK	Vehicle RK
Vehicle RL	Vehicle RL
Vehicle RM	Vehicle RM
Vehicle RN	Vehicle RN
Vehicle RO	Vehicle RO
Vehicle RP	Vehicle RP

Justify All Vehicles



Fleet Services Vehicle/Equipment Justification

The unit listed below is scheduled for replacement in FY xx/xx. This form must be completed and presented to the Fleet Administrative review committee. Please send a copy to Steve Russell of each completed form so he can make copies for the fleet committee to review.

Department _____ Make _____ Year _____
 Attached you will find a sheet detailing the current mile etc. on the vehicle.
 Do you agree that this unit should be replaced per the schedule ____ yes ____ no
 If there additional equipment on vehicle (please list) _____

Justification:
 Jobs performed with this equipment/vehicle _____

 How often are the above jobs performed _____

Additional comments on tasks performed by vehicle or equipment _____

 How would job be performed if this equipment/vehicle were not available? _____

If this vehicle/equipment should be replaced with something different than what is scheduled please state the reason here _____



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Future Purchases Should Be Fuel Efficient Vehicles

- EPA tests all light duty cars and pickups for MPG
- EPA has a best in class in the MPG category
- Fuel economy guide available on Clean Cities website

Best in class for MPG



One of the worst in class for MPG



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Poll Question 2

Do you know how much your town/school spends on fuel each year?

- 13% Yes, for each vehicle
- 44% Yes, for each department
- 19% Yes, for the whole town/school system
- 38% No



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Increase Fuel Mileage in Your Fleet!

- If you are using those old police cruisers for staff transportation then STOP!
- 18 MPG versus 39 MPG with a hybrid vehicle is a real winner!



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The Numbers: Used Crown Vic

Used Police Cruisers, Anticipated Costs

Year	Initial Costs (1)	Annual Costs (2)	Fuel Costs (3)	Annual
1	\$ 1,200.00	\$ 400.00	\$ 3,333.33	\$ 4,933.33
2		\$ 750.00	\$ 3,333.33	\$ 4,083.33
3		\$ 750.00	\$ 3,333.33	\$ 4,083.33
4	\$ 1,200.00	\$ 400.00	\$ 3,333.33	\$ 4,933.33
5		\$ 750.00	\$ 3,333.33	\$ 4,083.33
6		\$ 750.00	\$ 3,333.33	\$ 4,083.33
7	\$ 1,200.00	\$ 400.00	\$ 3,333.33	\$ 4,933.33
8		\$ 750.00	\$ 3,333.33	\$ 4,083.33
9		\$ 750.00	\$ 3,333.33	\$ 4,083.33
10	\$ 1,200.00	\$ 400.00	\$ 3,333.33	\$ 4,933.33
Totals:	\$ 4,800.00	\$ 6,100.00	\$ 33,333.33	\$ 44,233.33

Total Ten Year Cost: \$ 44,233.33
 Avg Per Year: \$ 4,423.33

- (1) Based on costs to make car with 100k road worthy, good for 5 years
 (2) Anticipated Costs, ie. Drive train, suspension, brakes, emissions, etc.
 (3) Based on EPA Data from Ford Motor Company (12 Miles per gallon), 10000K miles per year @ \$4.00 per gallon



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The Numbers: Ford Escape Hybrid

New Ford Escape Hybrid, Anticipated Costs

Year	Initial Costs (1)	Annual Costs (2)	Fuel Costs (3)	Annual
1	\$ 23,000.00		\$ 1,176.47	\$ 24,176.47
2			\$ 1,176.47	\$ 1,176.47
3		\$ 100.00	\$ 1,176.47	\$ 1,276.47
4			\$ 1,176.47	\$ 1,176.47
5			\$ 1,176.47	\$ 1,176.47
6		\$ 300.00	\$ 1,176.47	\$ 1,476.47
7		\$ 250.00	\$ 1,176.47	\$ 1,426.47
8			\$ 1,176.47	\$ 1,176.47
9		\$ 100.00	\$ 1,176.47	\$ 1,276.47
10			\$ 1,176.47	\$ 1,176.47
Totals:	\$ 23,000.00	\$ 750.00	\$ 11,764.71	\$ 35,514.71

Total Ten Year Cost: \$ 35,514.71
 Avg Per Year: \$ 3,551.47

- (1) Based on costs of new vehicle off of Kelly Blue Book Values
 (2) Anticipated Costs, ie. Drive train, suspension, brakes, emissions, etc.
 (3) Based on EPA Data from Ford Motor Company (26 Miles per gallon), 10000K miles per year @ \$4.00 per gallon



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Overall Comparison:

Vehicle	Cost per Year	Ten Year Cost	Savings
Used Police Car	\$ 4,423.33	\$ 44,233.33	
New Ford Ranger	\$ 2,913.46	\$ 29,134.62	\$ 15,098.72
New Ford Escape Hybrid	\$ 3,551.47	\$ 35,514.71	\$ 8,718.63
New Toyota Prius Hybrid	\$ 3,063.89	\$ 30,638.89	\$ 13,594.44



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Sample Vehicle Listing (Not Actual Data)										
Make/Model	MPG City	MPG Hwy	MPG Comb	Actual City	Actual Hwy	Actual Comb	EPA Class	Price	Notes	
Mini Mini Cooper S Clubman	A-68	164	264	254	156	215	Sub-compact	\$15,500	Additional information to help driver identify the vehicle (e.g., engine and tax system info.) along with other useful information about taxes, required fuel type, etc.	
	M-164	164	264	276	156	215	Sub-compact	\$15,500		
	C-164	164	264	276	156	215	Sub-compact	\$15,500		
	A-168	168	268	276	156	215	Sub-compact	\$15,500		
	M-168	168	268	276	156	215	Sub-compact	\$15,500		
	C-168	168	268	276	156	215	Sub-compact	\$15,500		
Ford Mustang FWD	A-168	168	268	276	156	215	Sub-compact	\$15,500	EPA class of highway MPG (Example: 25 Highway MPG, 18 City)	
	M-168	168	268	276	156	215	Sub-compact	\$15,500		
	C-168	168	268	276	156	215	Sub-compact	\$15,500		
Ford Mustang FWD	A-164	164	264	276	156	215	Sub-compact	\$15,500	Premium Gasoline Recommended To Reduce Wear	
	M-164	164	264	276	156	215	Sub-compact	\$15,500		
MIDSIZE CARS										
Mercury Marian	A-24	24	29	23	15	22	Midsize	\$15,500	EPA class of highway MPG (Example: 25 Highway MPG, 18 City)	
	M-24	24	29	23	15	22	Midsize	\$15,500		
	C-24	24	29	23	15	22	Midsize	\$15,500		
Mercury Marian FWD	A-24	24	29	23	15	22	Midsize	\$15,500	Premium Gasoline Recommended To Reduce Wear	
	M-24	24	29	23	15	22	Midsize	\$15,500		
Additional information to help driver identify the vehicle (e.g., engine and tax system info.) along with other useful information about taxes, required fuel type, etc.										
EPA class of highway MPG (Example: 25 Highway MPG, 18 City)										
Premium Gasoline Recommended To Reduce Wear										
EPA class of highway MPG (Example: 25 Highway MPG, 18 City)										
Premium Gasoline Recommended To Reduce Wear										
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Premium Gasoline Recommended To Reduce Wear										
EPA class of highway MPG (Example: 25 Highway MPG, 18 City)										
Premium Gasoline Recommended To Reduce Wear										



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Alternative Fuels

- Biodiesel (B100)
- Electricity
- Ethanol (E85)
- Hydrogen
- Natural gas
- Propane (autogas)



Fuel Blends – commonly used

- Biodiesel/diesel blends (B2, B5, B20)
- Ethanol/gasoline blends (E10)
- Hydrogen/natural gas blends (HCNG)



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Fuel Economy

- Fuel efficiency
- Behavioral changes
- Vehicle maintenance initiatives
- Vehicle miles traveled (VMT)

Hybrids

- Light- and Heavy-duty Hybrid Electric Vehicles
- Plug-in Hybrid Electric Vehicles

Idle Reduction

- Heavy-duty trucks
- School buses
- Truck stop electrification



National Lumber's heavy duty hybrid truck



Espar Pre-Heaters for Buses



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Wheel Loader using biodiesel, propane lawnmower, symbols on vehicles that can use E-85 & a Ford Fusion Hybrid



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Biodiesel heavy-duty truck, all-electric Nissan Leaf, & hydrogen fuel cell vehicle



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Poll Question 3

Does your town/school use any alternative fuels or vehicles?

- 11% Yes, biodiesel
- 0% Yes, electric vehicles
- 32% Yes, hybrid vehicles
- 0% Yes, CNG vehicles
- 58% No



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So How Do I Choose A Fuel?

- CNG now costs less per gallon than diesel fuel
- Hybrids – in the right application can mean a fuel savings of over 30%. ROI is 3 to 4 years
- Battery electric vehicles will operate at \$1.00 per gallon equivalent
- Biodiesel (B20) can increase MPG by 1 to 2 miles
- Hydrogen vehicles are about 15 years away

CNG VEHICLES
Medium-duty: Vans and Shuttles.



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Reduce Idling

Idling more than 5 minutes in MA is against the law

MGL, Chapter 90, 16A and 310 CMR, 7.11:

"No person shall cause, suffer, allow, or permit the unnecessary operation of the engine of a motor vehicle while said vehicle is stopped for a foreseeable period of time in excess of five minutes."

Dispel the myths

- Turbo diesel trucks do not need to idle to warm up or cool down
- Idle no more than 30 seconds; starting the car more often does not hurt the starter



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Fuel Reduction Technologies

- Limit top speed of vehicles to 60 MPH
- Use Zipcar technology (shared vehicles)
- Idle-Rite device: Turns the engine into a generator when idling for a long period of time.
- Use LED emergency lights - they do not drain batteries = less idling = less fuel use and pollution.
- Stay away from "fuel-saving" additives! Ask for EPA verification letter from those vendors.

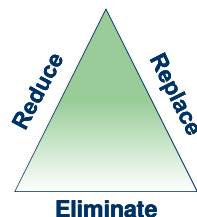


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Petroleum Displacement Methods

- **Replace** petroleum with alternative fuels and low-level blends.
- **Reduce** by promoting energy efficiency in vehicles through advanced technologies and more fuel efficient vehicles.
- **Eliminate** by promoting idle reduction, greater use of mass transit, trip elimination, and other congestion mitigation approaches.



Develop your plan using all of the above



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Fuel Efficiency Policies & Actions



- Develop a plan to replace old vehicles with energy efficient vehicles
- Justify all vehicles
- Evaluate take home vehicle policy
- Develop fuel use reporting program
- Develop anti-idling policy
- Discuss proper driving habits to save fuel



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Poll Question 4

In the next month, I will work with my town/school/fleet to:

- 46% Create a vehicle inventory and replacement plan
- 0% Implement route planning
- 23% Investigate car-sharing options
- 15% Draft an enforceable anti-idling policy
- 15% Discuss fuel-saving driving behaviors with vehicle drivers



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No Silver Bullet

Take a look at your fleet and find the right alternative fuel or vehicles that work for each operation. GO FOR IT!

When prices of a gallon of gas gets to \$6.00, issue bikes



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Q&A



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Resources

- Vehicle MPG information:
www.Fueleconomy.gov
- Petroleum reduction tool:
<https://www.afdc.energy.gov/afdc/prep/index.php>
- Massachusetts Clean Cities web site:
www.mass.gov/energy/cleancities



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DOER Contacts

- Alternative fuel/vehicles and general fleet questions:
Stephen.Russell@state.ma.us
- DOER Regional Coordinators:
 - Southeast: Seth.Pickering@state.ma.us
 - Northeast: Joanne.Bissetta@state.ma.us
 - Central: Kelly.Brown@state.ma.us
 - Western: Jim.Barry@state.ma.us



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THANK YOU!

- The webinar was recorded and will be available for viewing at your convenience on our website at:
www.mass.gov/energy/greencommunities
- The slide presentation will also be posted at:
www.mass.gov/energy/greencommunities



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